IN THE CLAIMS:

Please amend claims 1-27 and add claims 28-31 as follows:

1. (Currently Amended) A method for ~~producing a strong~~ bonding together ~~between~~ first and second ~~two~~ functional layers of a semiconductor, comprising the steps of:

applying an intermediate layer to the first functional layer;

forming at least one hole in the intermediate layer;

filling the at least one hole with an adhesive compound, where the adhesive compound forms an anchoring element;

removing an amount of any excess adhesive compound that results from the step of filling the at least one hole;

removing a predetermined portion of the intermediate layer to thereby expose a portion of the anchoring element; and

applying the second functional layer to the intermediate layer

~~(2, 6; 1, 6) of a multilayer system using anchoring elements (9), which exhibits at least one etching step, characterized in that anchoring elements (9) made of a different material from the layers to be bonded are embedded in at least one of the two layers (2, 6; 1, 6).~~

2. (Currently Amended) The ~~M~~method of ~~according to C~~claim 1, where the step of applying the second functional layer comprises embedding the anchoring element in the second functional layer~~characterized in that the anchoring elements (9) are embedded in the second layer (6) and in a third layer (1) provided between the first layer (2) and the second layer (6)~~.

3. (Currently Amended) The ~~M~~method of ~~according to C~~claim 1~~2~~, where the step of applying the intermediate layer comprises adhering the intermediate layer to the first functional layer~~characterized by the following steps of the method:~~

~~A third layer (1) is applied, at least partially, to the first layer (2);~~

~~A plurality of holes (3) are made in the third layer (1);~~

~~The holes (3) are completely filled with an adhesive compound (4);~~

~~The third layer is stripped down to a specifiable minimum thickness, so that anchoring elements (9) formed by the holes (3) from the adhesive compound (4) protrude from the third layer (1);~~

~~The second layer (6) is applied to the third layer (1), this layer completely enclosing the anchoring elements (9) formed from the adhesive compound (4)~~.

4. (Currently Amended) The ~~M~~method of ~~according to C~~claim 1~~3~~, where ~~characterized in that the~~ a cross-sectional area of the at least one hole ~~(3) in the third layer (1)~~ increases ~~or decreases~~ from one end of the at least one hole to the other end of the at least one hole.

5. (Currently Amended) The ~~M~~method of ~~according to C~~claim 14, where ~~characterized in that~~ the at least one holes ~~(3) are fashioned in~~ has a conical ~~the~~ shape ~~of a double cone or cone~~.

6. (Currently Amended) The ~~M~~method ~~according to one~~ of ~~C~~claims 1~~3 to 5~~, where ~~characterized in that~~ the step of forming at least one hole comprises etching the at least one holes in the intermediate layer~~(3) are made in the third layer (1) by conventional photolithographic etching processes~~.

7. (Currently Amended) The Mmethod ~~according to one~~ of Cclaims 1~~3 to 6~~, where ~~characterized in that~~ the step of applying an intermediate layer comprises applying the intermediate layer at least partially to the first functional layer in a first predetermined region~~the holes (3) are filled to excess and the excess adhesive compound (5) protruding above the third layer (1) is stripped away down to the third layer (1) before the third layer (1) is stripped~~.

8. (Currently Amended) The Mmethod ~~according to one~~ of Cclaims 1~~3 to 7~~, where the step of removing a predetermined portion of the intermediate layer comprises etching a predetermined portion of the intermediate layer ~~characterized in that the third layer (1) is stripped down to the minimum thickness by an etching process or a photolithographic etching process~~.

9. (Currently Amended) The Mmethod ~~according to one~~ of Cclaims 7~~2 to 8~~, where the step of applying the second functional layer comprises applying the second functional layer to the intermediate layer in a first predetermined region and applying the second functional layer to the first functional layer in a second predetermined region that is outside the first predetermined region~~characterized in that there is at least one region (8) free of anchoring elements (9) and the third layer (1), in which region the first layer and the second layer (2, 6) directly adjoin one another~~.

10. (Currently Amended) The Mmethod ~~according to one~~ of Cclaims 1~~3 to 9~~, where a cross-sectional area of the at least one hole is cylindrical~~characterized in that for the adhesive~~

~~compound (4) there is a material that enters into a strong physical or chemical bond with the first layer (2)~~.

11. (Currently Amended) The ~~M~~method ~~according to one~~ of ~~C~~claims 1~~3 to 10~~, where ~~characterized in that the~~ a diameter of the at least one holes ~~(3)~~ lies in a range between 100 and 1000 nm.

12. (Currently Amended) The ~~M~~method ~~according to one~~ of ~~C~~claims 1~~3 to 11~~, where ~~characterized in that the~~ a spacing between a plurality of the at least one holes ~~(3)~~ lies in a range ~~is~~ between 100 and 1000 nm.

13. (Currently Amended) The ~~M~~method ~~according to one~~ of ~~C~~claims 1~~2 to 12~~, where ~~characterized in that~~ a portion of the anchoring elements ~~(9) protrude~~ is exposed in a range of between 20 and 500 nm as a result of removing a predetermined portion of the intermediate layer~~from the third layer (1)~~.

14. (Currently Amended) The ~~M~~method ~~according to one~~ of ~~C~~claims 1~~ to 13~~, where ~~characterized in that the layer~~ a thicknesses ~~are~~ of each of the first and second functional layers lies in a range between 100 and~~to~~ 1000 nm.

15. (Currently Amended) The ~~M~~method ~~according to one~~ of ~~C~~claims 1~~2 to 14~~, where ~~characterized in that~~ the intermediate ~~third~~ layer ~~(1) is~~ comprises a dielectric material.

16. (Currently Amended) A multilayer semiconductor sensor~~system~~, comprising:

~~made up of at least~~ a first functional layer;

~~(2; 1) and~~ a second functional layer;

an intermediate layer disposed between the first and second functional layers in a first predetermined region; and

a plurality of anchoring elements each embedded in at least two of the first and second functional layers and the intermediate layer ~~(6), fabricated with the use of at least one etching step, characterized in that embedded in at least one of the two layers (6) are anchoring elements (9) made of a different material from the two layers that they bond~~.

17. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system of according to c~~Claim 16, where ~~characterized in that~~ each of the plurality of ~~the~~ anchoring elements ~~(9) are~~ is embedded in the second functional layer ~~(6)~~ and in the intermediate ~~a third~~ layer ~~(1) lying between a first layer (2) and the second layer (6)~~.

18. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system of according to C~~claim 16~~7~~, where a cross-sectional area of each of the plurality of anchoring elements is cylindrical~~characterized in that the third layer (1) is applied, at least partially, to the first layer (2); that a plurality of anchoring elements (9) protruding above the third layer (1) are made in the third layer (1); that the second layer (6), which encloses the parts of the anchoring elements protruding from the third layer (1), is applied to the third layer (1)~~.

19. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 16 ~~to 18~~, where ~~characterized in that the~~ a cross-sectional area of each of the plurality of ~~at least one~~ anchoring elements ~~(9)~~ increases ~~or decreases~~ from one end of the anchoring element to the other end of the anchoring element.

20. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system~~ of ~~according to~~ ~~C~~claim 16~~9~~, where ~~characterized in that~~ each of the plurality of ~~the~~ anchoring elements ~~(9)~~ has~~ve~~ a conical ~~or double~~ conical shape.

21. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 16~~7 to 20~~, where the first and second functional layers adjoin each other in a second predetermined regions that is outside the first predetermined region~~characterized in that there is at least one region (8) free of the third layer (1), in which region the first layer and the second layer (2, 6) directly adjoin one another~~.

22. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 16 ~~to 21~~, where the intermediate layer is adhered to the first functional layer~~characterized in that the anchoring elements (9) are made of a material that enters into a strong physical or chemical bond with the first layer (2)~~.

23. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 16 ~~to 22~~, where ~~characterized in that~~ ~~a~~the diameter of each of the plurality of anchoring elements ~~(9)~~ lies in a range between 100 and 1000 nm.

24. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 16 ~~to 23~~, where ~~characterized in that the~~ a spacing between ~~of~~ the plurality of anchoring elements ~~(9)~~ lies in a range ~~is~~ between 100 and 1000 nm.

25. (Currently Amended) The ~~M~~multilayer system ~~according to one~~ of ~~C~~claims 16 ~~to 24~~, where ~~characterized in that~~ each of the plurality of anchoring elements ~~(9)~~ is embedded into the second functional layer at ~~intrude to~~ a depth of between 20 and 500 nm ~~into the second layer (6)~~.

26. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 16 ~~to 25~~, where ~~characterized in that the layer~~ a thicknesses of each of the first and second functional layers lies in a range between ~~are~~ 100 and ~~to~~ 1000 nm.

27. (Currently Amended) The ~~M~~multilayer semiconductor sensor ~~system according to one~~ of ~~C~~claims 1~~6~~7 ~~to 26~~, where ~~characterized in that~~ the ~~third~~ intermediate layer ~~(1) is made of~~ comprises a dielectric material.

28. (New) A method for binding together first and second functional layers, comprising:

bonding a third layer to the first functional layer in a first predetermined region;

etching a plurality of holes in the third layer;

filling each of the plurality of holes with an adhesive compound to form a plurality of anchoring elements;

etching a portion of the intermediate layer down to a predetermined thickness to expose a portion of each of the plurality of anchoring elements; and

bonding the second functional layer to the third layer in the first predetermined region by interlocking the exposed portions of each of the plurality of anchoring elements with the second functional layer.

29. (New) The method of claim 28, further comprising the step of bonding the second functional layer directly to the first functional layer in a second predetermined region outside of the first predetermined region.

30. (New) The method of claim 28, where a cross-sectional area of each of the plurality of anchoring elements is tapered.

31. (New) The method of claim 28, where the third layer comprises a dielectric material.